

RemarksStatus of the Claims

Claims 1-62 are pending in the application. All claims stand rejected. By this paper, claims 1, 6, 31, 41, and 62 have been amended. Reconsideration of all pending claims, as amended, is respectfully requested.

Claim Objections/Rejections

Claim 6 was objected to because of a lack of antecedent basis for the "storage" step. The applicants have amended claim 6 to recite, instead, a "pre-caching" step, as suggested by the Examiner.

Claim 62 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The applicants have amended claim 62 to depend from claim 61 in order to provide antecedent basis for the phrase "the replacement algorithm," as suggested by the Examiner.

Claims 1-3, 6-8, 10, 14, 15, 22, 23, 31-33, 36-38, 40, 44, 45, 52, 53, 61, and 62 were rejected under 35 U.S.C. 102(b) as being anticipated by Brodsky. Claims 4, 9, 11-13, 34, 39, and 41-43 were rejected under 35 U.S.C. 103(a) as being unpatentable over Brodsky in view of Dodson et al. ("Dodson"). Claims 5, 11, 13, 21, 24, 28, 29, 35, 41, 43, 51, 54, 56, 58, and 59 were rejected under 35 U.S.C. 103(a) as being unpatentable over Brodsky in view of Wu et al. ("Wu"). Claims 16-20 and 46-50 were rejected under 35 U.S.C. 103(a) as being unpatentable over Brodsky in view of the "Encyclopedia Britannica Online" article, and further in view of Mighdoll et

al. ("Mighdoll"). Claims 24, 25, 27, 30, 54, 55, 57, and 60 were rejected under 35 U.S.C. 103(a) as being unpatentable over Brodsky in view of Reese.

References Do Not Teach or Suggest Automatically Sending Information Request In Response to Sensing a Change in the Television Program Being Displayed

As amended, claim 1 recites:

in response to sensing a change in the television program being displayed by the interactive television system, obtaining contextual information pertaining to the television program and automatically sending an information request to a content source for supplemental content related to the television program prior to receiving a subsequent user request for such supplemental content, the information request comprising the contextual information;

in response to the content source identifying any supplemental content related to the television program being displayed based upon the contextual information, retrieving the supplemental content from the content source and pre-caching the retrieved supplemental content in the interactive television system for display in response to the subsequent user request.

Thus, in the claimed invention, the trigger for automatically sending the information request is a *change in the television program being displayed*, e.g., a channel change. Other triggers, such as waiting for a user request or sending requests at periodic intervals, are problematic because they inevitably result in a delay in pre-caching supplemental content that is relevant to the program being currently displayed. For example, if the user changes channels, but an automatic request was just sent and will not occur again for another fifteen minutes, then relevant supplemental information may not be pre-cached in time for a user request for the information.

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By contrast, Brodsky says nothing about how or when automatic searches are triggered. Brodsky's entire discussion about the possibility of retrieving information before a user request is as follows:

As an option, means are provided to anticipate requests for a match by relaying 'words' already in the buffer even before a request is made. When this is employed, the application can preprocess searches for those 'words' and make the search results ready for delivery to the user. In the event that the user actually makes a request for a preprocessed item the system satisfies the request more quickly.

Col. 5, lines 5-10. Brodsky is silent about what causes searches to be preprocessed (triggered), and most certainly does not teach or suggest the claimed limitation of automatically triggering information requests in response to a detected change in a television program being displayed, such as a channel change.

With regard to original claim 5, which recites "detecting a channel change," the Office Action states that Wu discloses the sensing channel changes. The applicant respectfully submits that the claim 1, as amended, goes beyond merely detecting a channel change, but further requires that the sensing of a change in programming be the cause or trigger for the claimed steps of "obtaining contextual information pertaining to the television program and automatically sending an information request." Wu's reference to detecting channel changes does not in any way suggest the claimed use of that information. Likewise, Brodsky is devoid of any teaching or suggestion about a trigger for his preprocessed searches.

Accordingly, claim 1, as amended, is believed to be patentably distinct over the cited references. Claims 2-30, 61, and 62 depend directly or indirectly from claim 1 and are likewise believed to be patentably distinct for at least the same reasons.

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References Do Not Teach or Suggest Displaying a List of Pre-Cached Supplemental Content In Response to a User Request

Claim 3 recites:

in response to the subsequent user request to find supplemental content related to the television program being displayed:

displaying a list of pre-cached supplemental content items retrieved from the content source;

receiving a user selection of a supplemental content item from the list; and

displaying the selected supplemental content item using the interactive television system.

Being able to see what supplemental content has been pre-cached is valuable because the user will know whether particular information is immediately available on a given topic. By contrast, Brodsky only provides the user with a list of words that are valid in a user request. Col. 5, lines 17-18. The words are taken from the dynamically changing dictionary that is derived from the closed captioning feed. By having a limited set of valid words for a request, the voice recognition system does not have to anticipate arbitrary words from the user.

Thus, Brodsky's word list is merely a list of possible words to use in a query, not a list of pre-cached supplemental content generated by automatic searches. The example provided by Brodsky involving "France" (col. 6, lines 12-42) is entirely consistent with this reading:

In one scenario, a user is watching a television news program, the viewer hears the newscaster mention some country, for example, 'France'. The user may even see a map of that country shown on the screen. The map shown is not informative enough for the viewer. Then the newscaster moves on to another topic. With this invention, the viewer calls up a menu of recently stored key words and notes that the word 'France' and/or the 'map of France' was indeed stored in the dictionary. Then the viewer inputs a request for 'France'.

The input may be via voice, or via a direct or remote selection from a displayed dictionary menu. The recognition system matches that word against the words in its dictionary, and recognizes that the viewer wants some information about France. It issues a request to an application database for information about France.

As shown above, the list is not a list of pre-cached supplemental content, as claimed. Rather, it is a list of keywords or graphical representations thereof that can be selected by the user prior to sending a "request to an application database for information about France." A list of possible queries is not the same thing as a list of pre-cached search results. There is no guarantee that a query will result in a hit within a database.

None of the other cited references, alone or in combination, suggest the display of a list of pre-cached supplemental content items retrieved from the content source in response to a user request. Accordingly, the applicants respectfully submit that claim 3 is patentably distinct over the cited references. Claim 33 includes similar limitations and is likewise believed to be patentably distinct for at least the same reasons.

References Do Not Teach or Suggest Sending an Information Request Including a Time Index

Claim 31 has been amended to include the limitations of claim 41, *i.e.*, that the contextual information comprises a "time index." Claim 41, as amended, recites that the time index indicates a time at which the change in the television program being displayed was sensed. In such an embodiment, the claimed invention need not rely on keyword information taken, for example, from closed captioning text. Rather, an indication of a particular time of day may be sent with the information request and

used by a server to determine particular supplemental content associated with the programming shown at that time of day.

In response to claims 11 and 41, which recite a time index, the Examiner refers to the following passage in Dodson:

If the search 204 is selected, a new overlay 300 appears which can be seen in FIG. 3. The overlay 300 preferably includes automatic search terms to be searched, such as the movie title, actors, and the director. The automatic search terms can be derived in various ways. One way is to access a program guide database maintained by a program guide provider such as a cable company. The database can be directly accessed at the cable company's location by using such devices as the Internet interface 106 shown in FIG. 1, or a telephone line. If a current program guide is maintained in a database located in a set-top box, then the program guide can be accessed in the set-top box. The desired channel information is preferably assumed to be the current channel being displayed on the TV, and the assumed time is preferably the current time or a short time in the future such as half an hour. The information associated with that channel and time can be retrieved from the program guide database and displayed as the automatic search terms. In this manner, both the information overlaid on the program on the TV and the automatic search terms used for Internet search can be generated.

Col. 3, lines 8-28.

Nothing in this referenced passage, however, suggests including a time index within an information request. Rather, Dodson refers to the generation of automatic search terms, such as movie titles, actors, directors, etc. The search terms may be derived from current program guide data on the set top box. These automatically generated search terms may then be used in an "Internet search." However, there is no teaching or suggestion that the Internet search (or information request) comprises the time index, as required by claim 31, let alone a time index that "indicates a time at which the change in the television program being displayed was sensed," as recited in claim 41, as amended.

Accordingly, claims 31 and 41 are believed to be patentably distinct over the cited references, alone or in combination. Claims 32-60 depend directly or indirectly from claim 31 and are likewise believed to be patentably distinct for at least the same reasons.

References Do Not Teach or Suggest Periodically Replacing Pre-Cached Supplemental Content According to a Replacement Algorithm, Let Alone a Least Recently Used (LRU) Algorithm.

Claim 61 recites the step of "periodically replacing pre-cached supplemental content according to a replacement algorithm." Claim 62 recites that the replacement algorithm comprises a least recently used (LRU) algorithm.

In response to claims 61 and 62, the Office Action refers to Brodsky, stating that the LRU algorithm is used "in association with managing the capacity of the buffer such that it reflects the most recently extracted or used keywords (Col. 4, Lines 48-61)" (emphasis added). However, "most recently extracted words or used keywords" in the dictionary are not pre-cached supplemental content. They are the terms used in a search, not the pre-cached results of the search. The search terms in the dictionary may not even result in supplemental content to pre-cache.

Brodsky does operate with "parameters that set how many words to store or how long of period of time to store them." Col. 4, lines 53-54. However, how long search terms are stored in a dictionary has nothing to do with how long pre-cached supplemental content is stored. These are two completely different types of data. For example, a user may wish to store search terms in the dictionary for a much longer time than the pre-cached results of queries run on the search terms, since the

pre-cached results consume much more data than a mere list of words. On the other hand, since search terms are supposed to be topical and relate to the program being shown, a user might want the search terms to be stored for a much shorter period of time than the pre-cached supplemental information, since the pre-cached supplemental information might be applicable to other programs and because significant bandwidth has already been expended to retrieve the supplemental information, which would be wasted if the information were deleted too soon. Accordingly, any teaching about how search terms are maintained in a buffer are completely inapplicable to how pre-cached supplemental information is to be stored.

Conclusion

In view of the foregoing, the applicant respectfully submits that claims 1-62, as amended, are patentably distinct over the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

Digeo, Inc.

By


Kory D. Christensen
Registration No. 43,548

STOEL RIVES LLP
One Utah Center Suite 1100
201 S Main Street
Salt Lake City, UT 84111-4904
Telephone: (801) 328-3131
Facsimile: (801) 578-6999